

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 10/765,815
Filing Date: January 27, 2004
Applicant: Peter Pospichal
Group Art Unit: 1795
Examiner: Tony Sheng Hsiang Chuo
Title: VIRTUAL COMPRESSOR OPERATIOBNAL
PARAMTER MEASUREMENT AND SURGE
DETECTION IN A FUEL CELL SYSTEM
Attorney Docket: GP-304823

Mail Stop Appeal Brief - Patents
Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANT'S REPLY BRIEF

This is Appellant's Reply Brief in response to the Examiner's Answer mailed May '05, 2008.

Appellant respectfully submits that the Examiner has made a number of assumptions and statements concerning the teachings of Mitani that are not supported by Mitani in the Response to Argument section of the Examiner's Answer. For example, on page 6, lines 16-18, of the Examiner's Answer, the Examiner states that, "the air flow quantity "b" and rotary speed "c" of the compressor are known variables that are used to determine whether the compressor is approaching a surge condition which is area "A"." Appellant

submits that figure 1 of Mitani shows the relationship between discharge pressure of the compressor and compressor flow quantity as a known relationship between the two, but Mitani does not teach or disclose that the air flow quantity b and the rotary speed c are actual known values.

Page 6, starting at the last line of the Examiner's Answer, the Examiner states, "[i]t is contended by the Examiner that the main reason to disclose a compressor map is to use the map to determine the location on the compressor map that the compressor is operating." Appellant submits that the Examiner may contend this, but Mitani does not specifically teach that the compressor map is used to determine the location on the compressor map that the compressor is operating. Contrary, Appellant submits that Mitani is only showing the relationship between compressor discharge pressure and air flow, and not to control the fuel cell system as claimed.

On page 7, lines 7-10, the Examiner states, "[f]urther, there is no reason why the compressor map disclosed by Mitani et al. cannot be used to prevent a surge condition since the purpose of the compressor map is to determine whether the compressor is approaching a surge condition." Appellant submits that there may not be a reason why the compressor map disclosed by Mitani can be used to prevent a surge condition, but Mitani does not teach that reason. Further, nothing in Mitani teaches that the compressor map is actually used to determine whether the compressor is approaching a surge condition.

The Examiner also states on page 7, lines 11-13, of the Examiner's Answer that, "[t]herefore, one skilled in the art would know that a compressor

map can be stored in the controller in order to utilize it to prevent a surge condition based on the teachings of Mitani et al." Appellant submits that one of skill in the art could use hindsight based on Appellant's teachings to store a compressor map in a controller to prevent a surge condition. However, such a teaching is not provided by Mitani. Furthermore, if the Examiner is admitting that Mitani does not teach storing a compressor map in a controller, then a section 102 rejection of independent claim 18 is inappropriate.

On page 8, lines 3-6 of the Examiner's Answer, the Examiner states, "[a]s discussed above, the compressor map disclosed by Mitani et al. can be used to determine the discharge pressure by using the known input signals of rotation speed and air flow quantity to locate on the map and determine the discharge pressure on the y-axis of the graph." Appellant submits that the compressor map disclosed by Mitani et al. could be used to determine the discharge pressure, but no discussion in Mitani et al. teaches that it is used for this purpose.

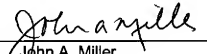
Appellant has stated that the relationship shown in the compressor map in figure 1 of Mitani and figure 1 of Appellant's specification are known in the art. However, what Appellant is suggesting is not known in the art is storing a compressor map in a controller to determine whether a compressor is approaching the surge line shown in the compressor map. Mitani does not teach that they store their compressor map for this purpose. Contrary, as discussed in Appellant's Brief, Mitani teaches that the surge condition is first detected, and then remedial actions are taken to prevent further surging.

Further, in response to the Examiner's statement on page 6 of the Examiner's Answer that the flow regulating valve 18 is operated using the air flow quantity flowing through the air path supply 15, Appellant submits that the section of the translation identified by the Examiner does state that the valve 18 is operated using the air flow quantity flowing through the supply path 15. However, Mitani does not teach how that air flow quantity is measured.

Respectfully submitted,

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Dated:

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